

ENGINEERING CHANGE NOTICE
DART AEROSPACE LTD

Date: 14.07.31	Job No.:	ADR Yes/No:	ADR Date:	ECN #: 14- 604
Product No.: 145-21, 206-21		Created By: KJ	Approved By: <i>[Signature]</i>	
Product Name: Cable Cutters		Checked By: <i>[Signature]</i>		

Distribution	Reqd	Resp	Initial / Date (YY/MM/DD)
Director of Operations	Y	NF	
Production Manager / Coord.	Y	LL/MF	
Purchasing Coord.	N	MG/CL	
Production Engineering Coord.	Y	DD/JLM	<i>[Signature]</i> 14.07.31
Production Engineering Coord.	N	DL	
Customer Order Processing	N	RM/CC	

Distribution	Reqd	Resp	Initial / Date (YY/MM/DD)
DQA / QA Coord.	Y	PS	
QC Coordinator	Y	ED	
Customer Support	N	SW/LM	
Customer Technical Support	N	MB/HS	
Marketing Manager	N	KO	
Sales Support Manager	N	NM	

Reason for Change:
Added dimension and tolerance (646.9700), revised BOM (647.1300)

Documents Affected:
Release 646.9700 Rev C1, 647.1300 Rev C2

IF APPLICABLE: NCR: _____ PAR: _____ CAR: _____ CIR: _____ URF: _____

PAPERWORK UPDATE ☐ PARTS MUST COMPLY ☒ PREVIOUS PARTS SATISFACTORY ☐

#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Eurocopter France	N			
3	Notify Augusta Westland	N			
4	Manufacturing Licensing Agreement Update	N			

#	Engineering Actions	Reqd	Resp	Notes	Complete
5	Required Documents/Drawings/Item ID's Under Review (URF)	N			
6	Update Master Document List (MDL)	N			
7	Update Document Record (DR)	N			
8	Update Product Compatability Matrix	N			
9	Notify TC / FAA of Change (eg. ICA, 8110-3)	N			
10					

#	Document Control Actions	Reqd	Resp	Notes	Complete
11	Move / Update Electronic Files / Design Journal	N			
12	Update Product Specification Files (Bluefiles)	N			
13	Update Approved/Preliminary Dwg PDF Files	Y	KJ		
14	Update Product Development Summary (STC applications)	N			
15	Update QSI 021 (TC/FAA STC) and/or STC Approval List	N			
16	Create/Update Parts / STC Database	N			
17	Update / Verify Airworthiness Release Certificate Database	N			
18	Create / Update Change Record Form / Item Card Database	N			
19	Create / Update Packaging Process Plan (PPP)	N			
20	Red Decals required on Packaging Process Plan (PPP)?	N			
21	Update Controlled Supplier Documents (Qpulse) Database	N			
22	Update Grey Project Binder / Electronic Project Folder	N			
23	Update D-Part / M-Drawing / DSI / DEO Master Binders	N			
24	Update "Royalty Paid to" attribute (Parts sold under Dart USA STC's)	N			
25					

Description / Action:
Update BOM's and Routes per drawing revisions

add 647.0112
118391
118392
h
11-08-11

ECN Verified & Complete: _____ Date: _____

List Lots

August-01-14 9:01:33 AM

Page 1 of 1

Criteria : Item ID: '647.1301', '647.1302' All Locations All Warehouses All Quantity							
Item ID Item Name	Warehouse ID Location ID	Lot Number	Last Trans Date	Lot Qty	Shelf Life Dt	Type Code	Comments
647.1301 EC145 Cable Cutters	Main Warehouse FG109	104841	7/04/14	1.0000		QC21	118391
				Total:	1.0000		
647.1302 EC145 Cable Cutter Removable Provisions	Main Warehouse FG102	104768	7/04/14	1.0000		QC21	
	Main Warehouse FG102	91810	7/04/14	1.0000		qc21	118392
				Total:	2.0000		

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 04592

SHEET 1 OF 1

DWG NO. 647.1300

REV: C

PREPARED BY:

J. BECKER

DATE: 06/19/14

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: EC145 CABLE CUTTERS KIT

APPROVED BY:

ENGR

MFG

QC

EFF:

CURRENT STOCK

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: REVISED BOM.

ACTION LIST:

1. ADD F/N 11 TO ALL CURRENT KITS IN STOCK

2. UPDATE III145-2 & ICA145-2

11	R	647.0112	8	8			STRUT BRACKET		
F/N	TC	PART NUMBER	.1306	.1305	.1304	.1303	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:			QTY				DER REVIEW REQUIRED		
			<input type="checkbox"/> MDL <input checked="" type="checkbox"/> INSTALL INSTRU <input checked="" type="checkbox"/> ICA <input checked="" type="checkbox"/> BOM				<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
			CHANGE CATEGORY						
			<input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR						

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

04485

SHEET 1 OF 1

DWG NO. 647.1300

REV: C

PREPARED BY J. SOTO

DATE: 04/04/2014

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: EC 145 CABLE CUTTERS KIT

APPROVED BY:

ENGR

MFG

QC

EFF.

NEXT ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: REVISED F/N 62.

ECR:

D-14-02

62	R	601.3008	2	2	2	2	INSERT		NAS1834C3-300	
F/N	TC	PART NUMBER	.1306	.1304	.1303	.1301	DESCRIPTION		MATERIAL	SPECIFICATION
			QTY							

DOCUMENTS EFFECTED:

☐ MDL
 ☐ INSTALL INSTRUCTIONS
 ☐ ICA
 ☐ FMS
 ☒ BOM

CHANGE CATEGORY

☐ MAJOR
 ☒ MINOR

DER REVIEW REQUIRED

☐ YES
 ☒ NO

1 2 3 4 5 6 7 8

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	2	2			85	647.1702	SKID DEFLECTOR ASSY	△	
	1	1			84	647.2113	LOWER RAIL (U CHANNEL KIT)		
	8	8			83	601.3655	WASHER	LN9025-0820K	
	8	8			82	601.3654	SCREW	LN9037-8018	
1		1			81	647.2112	UPPER U CHANNEL		
	4	4			80	601.3653	WASHER	93475A270	
	2	2			79	601.3652	LOCKNUT	93625A300	
	2	2			78	601.3651	SCREW	91292A080	
	1	1			77	647.1403	CUTTER ASSY (UPPER U CHANNEL)		
	5	5			76	601.3650	BOLT	AN3-15A	
REF			REF	REF	75	647.5701	GPS MOUNT KIT	△	
2		2	2		74	601.1954	SCREW	MS27039-1-17	
	2	2		2	73	647.2010	UPPER STRUT		
	1	1		1	72	601.2045	RTV	LOCTITE 598	
1		1	1		71	600.1012	SEALANT	PR-1425 CLASS B	
1		1	1		70	600.0991	MAGNOBOND 6398 PART B		
1		1	1		69	600.0990	MAGNOBOND 6398 PART A		
4		4	4		68	601.3012	SCREW	MS27039-1-15	
2		2	2		67	601.3004	CAMLOC STUD		
2		2	2		66	601.3005	CAMLOC RETAINER		
2		2	2		65	601.3006	CAMLOC RECEPIACLE		
3 FT.		3 FT.	3 FT.		64	601.3011	P-SEAL		
1.1 FT.		1.1 FT.	1.1 FT.		63	601.3007	GROMMET	MS21266-2N	
2		2	2		62	601.3008	INSERT	NAS1834C-300	
11		11	11		61	601.2991	RIVET	CR3213-4-6	
2		2	2		60	601.1039	RIVET	CR3213-4-2	
8		8	8		59	601.1183	RIVET	CR3213-4-5	
.1306	.1305	.1304	.1303	.1302	.1301	FIND #	PART #	DESCRIPTION	SPEC.

BOM Table(Restructured)

22		22	22		22	58	601.0790	RIVET	CR3213-4-3	
8		8	8		8	57	601.2995	RIVET	CR3213-6-6	
4		4	4		32	56	601.1915	RIVET	CR3213-4-4	
12		12	12		12	55	601.2207	NUTPLATE RIVET	CCR264SS-3-03	
4		4	4		4	54	601.1983	NUTPLATE RIVET	CCR274SS-3-03	
12		12	12		12	53	601.2980	NUTPLATE RIVET	CCR264SS-3-04	
12		12	12		12	52	600.0795	NUTPLATE	MS21047-3	
	4	4		4	4	51	601.3209	LOCKNUT	MS21042L4	
5	4	9	5	4	9	50	601.2973	LOCKNUT	MS21042-08	
29	17	46	29	16	45	49	601.2943	LOCKNUT	MS21042-3	
3		3	3		3	48	601.2375	WASHER		
10	8	18	10	8	18	47	601.2764	WASHER	NAS1149FN832P	
	70	32	70	32	102	46	601.1607	WASHER	NAS1149F0332P	
1		1	1		1	45	601.2525	SCREW	MS27039-0807	
4		4	4		4	44	601.1952	SCREW	MS27039-1-20	
	4	4		4	4	43	601.3010	SCREW	MS27039-0810	
4		4	4		4	42	601.3224	SCREW	AN525-10R12	
6		6	6		6	41	601.1365	SCREW	MS27039-1-10	
3		3	3		3	40	601.2198	SCREW	MS27039-1-07	
3		3	3		3	39	601.2999	SCREW		
18		18	18		18	38	601.2459	SCREW	MS27039C1-06	
4		4	4		4	37	601.1622	SCREW	MS27039-1-14	
10		10	10		10	36	601.2051	SCREW	MS24694C52	
2		2	2		2	35	601.2823	BOLT	AN3-4A	
1		1	1		1	34	601.1324	BOLT	AN4CH6A	
	2	2		2	2	33	601.1874	BOLT	AN3C10A	
	12	12		16	16	32	601.2826	BOLT	AN3-11A	
8		8	8		8	31	601.2638	WASHER	NAS1149F0432P	
4		4	4		4	30	601.3002	BOLT	NAS6604-66	
2		2	2		2	29	647.1811	SPACER		
4		4	4		4	28	647.2511	NUT		
4		4	4		4	27	647.2510	SLEEVE		
.1306	.1305	.1304	.1303	.1302	.1301	FIND #	PART #	DESCRIPTION	MATL	SPEC.

BOM Table(Restructured)

ORIGINAL DATE: 02-01-06 DRAWN BY: K. ROSANO CHECKED BY: D. BARKER DRAWING APPROVAL: P. BRAVO DESSIGN CONTRACT NO:		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300 EC145 CABLE CUTTERS KIT	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.010 ANGLES ± .5°	SIZE: B CAGE CODE: 07M26 DWG. NO: 647.1300 SCALE: NONE	REV: C SHEET: 2 OF 9	

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NOTES: UNLESS OTHERWISE SPECIFIED

- 1 AFTER INSTALLATION, APPLY F/N 73 A/R TO FILL GAPS AND FILLET EDGES
- 2 APPLY F/N 74 TO FAYING SURFACES
- 3 AT CUSTOMERS OPTION, INSTALL F/N 77 BY MATCH DRILLING ONTO F/N 1
- 4 INSTALL FOR 647.1301, 647.1302.
- 5 INSTALL FOR 647.1304, 647.1305.
- 6 APPLICABLE WHEN EUROCOPTER P/N 145-250014.11 IS INSTALLED WITH EUROCOPTER CABLE CUTTER FIXED PROVISIONS.
- 7 APPLICABLE WHEN REPLACING EUROCOPTER P/N 145-250074.11

UNINCORPORATED ECN(s)

04485, 04592

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
LAST PROTOTYPE REVISION: PR3			N/C
N/C	INITIAL RELEASE	06/05/09	P. BRAVO
A	INCORPORATED ECN 02943, 00020, 03048	01/25/11	P. BRAVO
B	INCORPORATED ECN 02919	07/05/13	P. BRAVO
C	INCORPORATED ECN 04059	08/13/13	P. BRAVO

13		13	13		13	26	647.1812	SHIM		
4		4	4		4	25	647.1910	CLIP		
1		1	1		1	24	647.1810	NOSE DOOR DOUBLER		
1		1	1		1	23	647.1818	NOSE DOOR SPACER		
2		2	2		2	22	647.1813	ANGLE		
1		1	1		1	21	647.1913	TEE		
1		1	1		1	20	647.1814	GUSSET, LH		
1		1	1		1	19	647.1815	GUSSET, RH		
1		1	1		1	18	647.1915	SUPPORT ANGLE		
	2	2		2	2	17	647.2011	LOWER STRUT		
1		1	1		1	16	647.1914	BRACKET		
1		1	1		1	15	647.1816	SUPPORT, LH		
1		1	1		1	14	647.1817	SUPPORT, RH		
1		1	1		1	13	647.1912	BRACKET, LH		
1		1	1		1	12	647.1911	BRACKET, RH		
4		4	4	4	8	11	647.0112	STRUT BRACKET		
				1	1	10	647.2110	LOWER RAIL		
					1	9	647.2111	UPPER RAIL		
1		1	1		1	8	647.1610	WIPER DEFLECTOR, FWD		
1		1	1		1	7	647.1601	WIPER DEFLECTOR ASSY, AFT		
				2	2	6	647.1701	SKID DEFLECTOR ASSY		
1		1	1		1	5	647.3201	GROUNDING CABLE ASSY		
1		1	1		1	4	647.2201	CROSS ASSY		
1		1	1		1	3	647.1602	DOUBLER ASSY		
	1	1			1	2	647.1402	CUTTER ASSY (LOWER)		
				1	1	1	647.1401	CUTTER ASSY (UPPER)		
							647.1306	FIXED PROVISIONS KIT U CHANNEL		
							647.1305	REMOVABLE PROVISIONS KIT U CHANNEL		
							647.1304	EC145 CABLE CUTTERS KIT U CHANNEL COMPATIBLE		
							647.1303	FIXED PROVISIONS KIT		
							647.1302	REMOVABLE PROVISIONS KIT		
							647.1301	EC145 CABLE CUTTERS KIT		
.1306	.1305	.1304	.1303	.1302	.1301	FIND #	PART #	DESCRIPTION	MATL	SPEC.

BOM Table(Restructured)

QTY		PARTS LIST	
NEXT ASSY (S)		ORIGINAL DATE 06/05/09	APICAL INDUSTRIES
		DRAWN BY R. ROSANO	2608 TEMPLE HEIGHTS DR.
		CHECKED BY D. BARBER	OCEANSIDE, CA. 92056-3512 (760)724-5300
		DRAWING APPROVAL P. BRAVO	EC145 CABLE CUTTERS KIT
		CONTRACT NO.	
		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.03 3 PLACE DECIMALS ±.010 ANGLES ±.5°	SIZE CAGE CODE B 07M26
			DWG. NO. 647.1300
			SCALE NONE
			SHEET 1 OF 9